

#### **IV. NEXT GENERATION NETWORK ARCHITECTURES REQUIRE THAT THE COMMISSION UPDATE ITS LOCAL COMPETITION RULES**

##### **A. “Project Pronto” and Richardson, Texas Deployments Illustrate the Critical Need For New Local Competition Rules.**

In the *Collocation Reconsideration Order and NPRM*, the Commission seeks comment on whether the deployment of new architecture and electronics by incumbent LECs requires the Commission to revisit its local competition rules, particularly its rules on unbundling. Joint Commenters assert that incumbent LECs’ deployment of so-called next generation network technologies demonstrates the pressing need for new rules. In Project Pronto, SBC has proposed network deployments that would permit that incumbent carrier to control the pace and scope of competition in advanced services. In Richardson, Texas, SBC has virtually eradicated xDSL competition by unilaterally removing copper loops.

Joint Commenters echo industry’s concern that “ILECs will extend their monopoly power over local telephony to advanced services by operating and controlling next-generation networks in a manner that ensures that only the incumbent LECs (and their data affiliates) will be able to recognize the full benefits of new network technology and architecture.”<sup>91</sup> Without Commission action, the full benefits of this new architecture and technology are unlikely to extend to customers of CLECs and incumbent LECs alike. First, the Commission should revisit its local competition rules to assure that advanced services electronics and capabilities are included in the definition of loop and transport UNEs. Second, the Commission should establish new advanced service UNEs. Lastly, ILECs must be required to disclose network capabilities.

---

<sup>91</sup> *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability; Implementation of the Local Competition Provisions of the Telecommunications Act of 1996; Application for Consent to the Transfer of Control of Licenses and Section 214 Authorizations from Ameritech Corporation, Transferor to SBC Communications, Inc., Transferee; Common Carrier Bureau and Office of Technology Announce Public Forum on Competitive Access to Next-Generation Remote Terminals*, CC Docket Nos. 98-147, 96-98, 98-141, and NSD-L-00-48, Reply Comments of AT&T Corp. at p. 12 (July 10, 2000)(“AT&T ALTS Petition Reply Comments”).

**B. Loop and Transport UNEs Should Include Advanced Services Electronics**

A network element is defined under the Act as a “facility or equipment used in the provision of a telecommunication service” which includes the “features, functions, and capabilities that are provided by means of such facility.”<sup>92</sup> The loop was initially defined by the Commission as “a transmission facility between a distribution frame, or its equivalent, in an incumbent LEC central office, and the network interface device at the customer premises.”<sup>93</sup> In its *UNE Remand Order*, the Commission modified its definition of the loop network element to include “all features, functions and capabilities of the transmission facilities, including dark fiber and attached electronics (*except those used for the provision of advanced services, such as DSLAMs*) owned by the incumbent LEC, between an incumbent LEC’s central office and the loop demarcation at the customer premises.”<sup>94</sup> The Commission has sought to ensure that its definition of the loop will apply to “new as well as current technologies.”<sup>95</sup>

SBC’s request for waiver of the SBC/Ameritech merger conditions to authorize the SBC/Ameritech incumbent LEC to own combinations POTS/ADSL plugs/cards located in remote terminals as well as optical concentration devices (“OCDs”) located in central offices demonstrates the unworkability of excluding line cards and OCDs from the definition of the loop UNE.<sup>96</sup> As discussed below, the Commission should redefine the loop UNE to include both line cards and OCDs employed as part of DLC systems deployed by incumbent LECs.

---

<sup>92</sup> 47 U.S.C. § 153(29).

<sup>93</sup> *In the Matter of the Implementation of the Local Competition Provisions in the Telecommunications Act of 1996*, CC Docket No. 96-98, FCC 96-325, First Report and Order, 11 FCC Rcd. at 15499 at ¶ 380 (1996)(“*Local Competition Order*”).

<sup>94</sup> *In the Matter of Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket No. 96-98, FCC 99-238, ¶ 167 (1999)(“*UNE Remand Order*”) (emphasis added).

<sup>95</sup> *Id.*

<sup>96</sup> *Applications for Consent to Transfer Control of Licenses and Section 214 Authorizations from Ameritech Corporation, Transferor, to SBC Communications, Inc., Transferee*, CC Docket No. 98-141, Request for Interpretation, Waiver or Suspension of Merger Conditions Affecting the Ownership of Plugs/Cards and OCDs (Feb. 15, 2000).

## 1. Line Cards

The Commission should include combination card/plugs within the definition of a loop. By SBC's own definition the combination unit equipment is "an integrated piece of technology having both POTS and DSLAM capabilities as well as the 'splitter' functionality."<sup>97</sup> DLCs, unlike DSLAMs, are not used solely for the provision of advanced services, but are "deployed where there are multiple service requirements (*i.e.*, voice and data)."<sup>98</sup> Thus, the basis for excluding DSLAMs from the definition of the loop is not present with the combination cards. They are integrated, multi-functional equipment that play a vital role in the transmission of non-advanced, as well as advanced, services. The Commission noted in its *UNE Remand Order* that:

[S]ome loops, such as integrated digital loop carrier (IDLC), are equipped with multiplexing devices, without which they cannot be used to provide service to end users. Because excluding such equipment from the definition of the loop would limit the functionality of the loop, we include the attached electronics (with the exception of DSLAMs) within the loop definition.<sup>99</sup>

Likewise, these integrated cards must be included in the definition of the loop because excluding them would limit the functionality of the loop. The new equipment being produced by vendors today provides such integrated functionality so that the line between implementing advanced and implementing non-advanced services is blurred. The Commission should rethink its exclusion of equipment used in the provision of advanced services from the definition of the loop. Such a bright-line distinction is no longer tenable given the technology advances that have resulted in integrated equipment. Imprecise application of such a non-existent distinction would exclude equipment that is crucial to the functionality of the loop.

## 2. Optical Concentration Devices

---

<sup>97</sup> *SBC Letter* at p. 4.

<sup>98</sup> *Alcatel Comments*, p. 2. SBC argues that the cards are not advanced services equipment, and notes the majority of the cards will be used to provide POTS service, at least initially. *SBC Letter* at p. 4; *see also*, *SBC Reply Comments* at p. 7.

<sup>99</sup> *UNE Remand Order* at ¶ 175.

OCDs, which are essentially ATM switches, separate each CLEC's ATM packetized bitstream from the common ATM packetized bitstream coming from the remote terminals, and hand off the appropriate packetized bitstream to each CLEC and incumbent LEC advanced services affiliate.<sup>100</sup> Under SBC's proposed network configuration in Project Pronto, the ATM switches are "the only means by which the ADSL-based traffic of multiple CLECs can be aggregated and disaggregated."<sup>101</sup> Thus, the OCD will be the only feasible point at which CLECs can get access to the ATM's bit streams coming from their customers.<sup>102</sup> Therefore, the Commission should define the loop UNE as including OCDs where such devices are deployed. This will enable CLECs to access the OCD functionality as part of the loop UNE.

### **C. CLECS Must Be Permitted to Deploy Their Own Line Cards**

The plug/cards in the Project Pronto system are multi-functional, *i.e.*, they provide DSL functionality, DSLAM functionality, and splitter functionality.<sup>103</sup> SBC describes the combination card/plug as "an integrated piece of technology having both POTS and DSLAM capabilities as well as the "splitter" functionality."<sup>104</sup> SBC has threatened to prohibit the collocation of CLEC DSLAMs within most remote terminals because of alleged lack of space.<sup>105</sup> As discussed, the

---

<sup>100</sup> CC Docket 98-141, *Ex Parte* Letter from DSL Access Telecommunications Alliance to Carol Matthey at p. 4 (April 11, 2000) ("DATA Letter").

<sup>101</sup> *Id.* The placement of the OCDs in the central office is an indication of SBC's failure to consider more economical alternatives, such as allowing CLECs to access the bitstream at the DLC, which would preclude the need for a central-office based ATM switch, including the need for a multiport DLC at the CO, and allow for the deployment of fewer ATM switches. *Id.* The failure to implement a cost-effective architecture will surely lead to higher proposed cost-recovery from SBC for use of this functionality. *Id.*

<sup>102</sup> *Id.*

<sup>103</sup> *Petition of Covad Communications Company for an Arbitration Award Against Bell Atlantic Pennsylvania, Inc., Implementing the Line Sharing Unbundled Network Element; Petition of Rhythms Links, Inc. for an Expedited Arbitration Award Implementing Line Sharing*, PA PUC Docket Nos. A-310696F0002 and A-310698F0002, Recommended Decision at p. 36 (June 28, 2000) ("PA ALJ Ruling").

<sup>104</sup> CC Docket No. 98-141, Letter from Paul K. Mancini, SBC Vice President and Assistant General Counsel to Lawrence Strickling, Common Carrier Bureau at p. 4 (February 15, 2000) ("SBC Letter").

<sup>105</sup> *In the Matter of SBC Communications, Inc., et al., for Provision of In-Region InterLATA Services in Texas*, CC Docket No. 00-65, Supplemental Comments of AT&T Corp. at p. 24 (April 26, 2000); *Response to SBC's Requests for Interpretation, Waiver or Suspension of Merger Conditions Affecting the Ownership of Plugs/Cards and OCDs*, CC Docket 98-141, *Ex Parte* Letter from DSL Access Telecommunications Alliance to Carol Matthey at p. 3 (April 11, 2000) ("DATA Letter").

Commission should require incumbent LECs to provide additional collocation space at remote terminals. Therefore, lack of space should not be a sufficient reason for denying collocation at remote terminals.<sup>106</sup> However, to the extent space is an issue at remote terminals, plug-in cards provide a ready solution. The line cards provide an “efficient, convenient and less capital intensive means” for the CLEC to access the subloop.<sup>107</sup>

The problem is that the particular line cards utilized by SBC, and made by Alcatel USA, limit the type of xDSL “flavors” a carrier may provide. For instance, the line cards would not support SDSL service.<sup>108</sup> For CLECs desiring to provide xDSL services, other than those Alcatel’s equipment supports, Alcatel suggests that these carriers deploy their own DSLAMs.<sup>109</sup> This is not a viable option for CLECs because the level of subscriber concentration present at a particular remote terminal may not justify the cost of collocation.<sup>110</sup>

One solution would be to allow CLECs to provide their own line cards tailored to the particular class of service they seek to offer and to have SBC install the cards. SBC objects to this option. SBC argued that it is under no legal obligation to allow CLECs to reconfigure SBC’s equipment, and it also argues that this option is technically infeasible.<sup>111</sup> Thus, SBC’s position was that CLECs should be limited in the provision of their xDSL services to the type of service that is supported by the incumbent LEC’s line cards. Equally troubling is SBC’s position that at

---

<sup>106</sup> See also CC Docket 98-141, Comments of Alcatel USA at p. 4 (March 2, 2000); *SBC Letter* at p. 2.

<sup>107</sup> *SBC Letter* at p. 3.

<sup>108</sup> CC Docket 98-141, Reply Comments of Alcatel USA at p. 2 (March 10, 2000)(“*Alcatel Reply Comments*”).

<sup>109</sup> *Id.*

<sup>110</sup> *Petitions of Covad Communications Company and Rhythms Links, Inc. for Arbitration Pursuant to Section 252(b) of the Telecommunications Act of 1996 to Establish an Amendment for Line Sharing to the Interconnection Agreement with Illinois Bell Telephone Company d/b/a Ameritech Illinois, and for an Expedited Arbitration on Certain Core Issues*, Illinois Commerce Commission Docket Nos. 00-0312 and 00-0313, Arbitration Decision at p. 29 (August 17, 2000)(“*Illinois Line Sharing Order*”).

<sup>111</sup> CC Docket 98-141, Reply Comments of SBC Communications, Inc. In Support of a Determination that SBC Incumbent LECs May Own Combination Plug/Cards and Optical Concentration Devices at p. 15 (March 10, 2000)(“*SBC Reply Comments*”). Ironically, one of the initial proposals SBC considered making to the Commission was to allow CLECs to own their cards and SBC would install the cards. *SBC Letter* at p. 3.

any time it may transfer the line cards to its Advanced Service affiliate, and that “the obligations that would travel to the affiliate with such equipment would be evaluated on a case-by-case basis.”<sup>112</sup> Unfortunately, the Commission’s recent *Project Pronto Order* omits an express affirmative duty for incumbent LECs to permit CLECs to provision their own line cards.

In order to redress these issues, CLECs must be permitted to provision line cards, both at remote terminals and in the central office, that would support the types of services they wish to offer. In fact, the Illinois Commerce Commission requires Ameritech to install plug-in cards that support all DSL-based services requested by CLECs. Alleged inability to do so, places the burden of proof on the incumbent to prove that the plug-in card is not compatible with Project Pronto technology.

This Commission should go a step further to stem inevitable conflicts and permit CLECs to provision their own line cards so that CLECs may access the full functionality and capability of the loops they purchase.

#### **D. The Commission Should Designate New UNEs.**

##### **1. DWDM Wavelengths**

Dense wave division multiplexing (“DWDM”) technology, multiplies the capacity of an optical fiber by simultaneously operating at more than one wavelength, thereby allowing multiple information streams to be transmitted simultaneously over the fiber.<sup>113</sup> Although expensive, it

---

<sup>112</sup> *SBC Reply Comments*, p. 8. Also troubling is SBC’s apparent view that it can “fund its affiliate such that the affiliate, itself, could construct new remote terminals and install DSLAM equipment without subjecting the affiliate or the incumbent to the conditions proposed by the DSL CLECs or even the unbundling requirements of the Act.” *Response to SBC’s Requests for Interpretation, Waiver or Suspension of Merger Conditions Affecting the Ownership of Plugs/Cards and OCDs*, CC Docket 98-141, *Ex Parte* Letter from NorthPoint Communications, Covad Communications, and Rhythms NetConnections to Carol Matthey at p. 3 (May 31, 2000)(“*NorthPoint Letter*”)

<sup>113</sup> *In the Matters of Deployment of Wireline Services Offering Advanced Telecommunications Capability and Implementation of the Local Competition Provisions of the Telecommunications Act of 1996*, CC Docket Nos. 98-147, 96-98, Order on Reconsideration and Second Further Notice of Proposed Rulemaking in CC Docket No. 98-147, and Fifth Further Notice of Proposed Rulemaking in CC Docket No. 96-98, FCC 00-297 at ¶ 120, n. 253 (August 10, 2000)(“*Collocation Order and NPRM*”).

gives a carrier much greater capacity and provides for intelligent management of bandwidth, and is perhaps the best long-term strategy for promoting capacity in a network.<sup>114</sup> Verizon is using this technology in its large metropolitan areas, and such technology may help promote its fiber-to-the-curb deployments.<sup>115</sup>

The effect of such technology on the loop could be revolutionary. The technology will allow network carriers “to sell or lease the individual streams of light in fiber-optic networks that transport voice, video, or image traffic.”<sup>116</sup> Customers, “such as ISPs, will be able to purchase only the network bandwidth they want, when they want it.”<sup>117</sup> It will provide carriers with new revenue streams and allow companies to “boost sales by packaging wavelengths with Internet services and lift efficiency by leasing or trading network bandwidth as needed.”<sup>118</sup> As one analyst notes:

[O]ptical wavelengths are the building blocks of the next-generation service provider networks. We anticipate that optical wavelengths will be the unit of commerce for all service provider networks.<sup>119</sup>

The Commission should require incumbent LECs to offer optical wavelengths as separate UNEs. The Commission has already taken this approach with line sharing in unbundling the electrical high frequency portion of copper loops. Just as the frequency of a copper loop is part of its “capability,”<sup>120</sup> so to is the wavelength of a fiber loop or subloop. Carriers should be allowed either to access unbundled loop functionalities such as wavelength, separate from other loop

---

<sup>114</sup> *Ryan Article*

<sup>115</sup> *Id.*

<sup>116</sup> *Nortel Article.*

<sup>117</sup> *Id.*

<sup>118</sup> *Id.*

<sup>119</sup> *Id. quoting Ron Steele, Chief Technology Officer of NEON Systems, Inc.*

<sup>120</sup> *Line Sharing Order* at ¶ 17.

functions, or to access, at their option, the entire unbundled loop facility.<sup>121</sup> In this way, a carrier that only desired a particular wavelength could purchase that particular wavelength. If a carrier wanted to access all wavelengths of the loop, it could purchase the entire loop and have exclusive use of the facility. The Commission could utilize a similar approach in regard to the DWDM electronics that it uses in regard to line splitters, *i.e.*, allowing the incumbent LEC to install and maintain the electronics unless such control is inhibiting the CLEC's provisioning of services it seeks to provide.<sup>122</sup>

## 2. Constant Bit Rate Class of Service

Constant Bit Rate ("CBR") is a data service where the bits are conveyed regularly in time and at a constant rate, *i.e.*, "following a timing source or clock just as members of a marching band follow the beat of the drummer."<sup>123</sup> CBR technology could be the basis for current high-speed access solutions because it allows carriers to provide a full array of services.<sup>124</sup> This service is especially important in regard to sending uncompressed voice and video traffic because they are sensitive to variable delay, thus, they have to be transported without any interruptions in the flow of data.<sup>125</sup> As data transmission becomes more multimedia in nature, *i.e.*, voice over ATM or IP and videoconferencing, issues inevitably arise over quality of service ("QoS").<sup>126</sup> These media are extremely bandwidth and delay sensitive, and unless packets are capable of being delivered in a real-time, orderly and timely manner, the quality of service is greatly affected.<sup>127</sup> Electronics that provide for CBR QoS address these problems.<sup>128</sup>

---

<sup>121</sup> *Id.* at ¶ 18.

<sup>122</sup> *Line Sharing Order* at ¶¶ 76-79.

<sup>123</sup> Newton's Telecom Dictionary 210 (16<sup>th</sup> Ed. 2000).

<sup>124</sup> Larry Hurtado, *In the Loop*, Telephony.

<sup>125</sup> Newton's Telecom Dictionary 210 (16<sup>th</sup> Ed. 2000).

<sup>126</sup> *Id.* at 692.

<sup>127</sup> *Id.*



In connection with Project Pronto, CLECs have requested that SBC provide CBR class of service because it would provide a guaranteed bandwidth without queuing delays or discards.<sup>129</sup> SBC initially responded that it could only provide unspecified bit rate (“UBR”) service. UBR service, however, will not permit CLECs to provide the full range of DSL services that they are currently providing and would also preclude future DSL services such as VDSL and G.shDSL.<sup>130</sup> SBC eventually agreed to provide CBR service. CBR service would thus avoid the technical limitations imposed by an incumbent LEC’s choice of a particular technology that could otherwise limit CLECs to a particular service, such as SBC’s initial proposal to limit CLECs to providing ADSL over its NGDLC architecture. Accordingly, the Commission should designate CBR as a UNE.

---

<sup>128</sup> *Id.*; Larry Hurtado, *Switching and Transmission*, Telephony (September 13, 1999). Solutions are already being developed to solve the spectrum compatibility problems associated with CBR service, and, thus, allow carriers to reap the full advantage of such service. Next-generation technologies are being developed that will “employ burst-mode transmissions that allow it to ‘listen’ to line characteristics and manage around potential interfering services, making it compatible with POTS, T-1, ISDN/IDSL DSL, high bit-rate DSL, symmetrical DSL, ADSL, and G.lite services.” *Id.*

<sup>129</sup> CC Docket 98-141, Letter from @Link Networks, Inc., to Carol Matthey, Deputy Director, Common Carrier Bureau, at p. 1 (June 30, 2000)(“@Link Letter I”).

<sup>130</sup> *Id.* For instance, UBR would not be conducive to providing voice or video over DSL.

### 3. The Fiber/Broadband Loop

The Commission should clarify that CLECs are entitled to the full features, functionalities and capabilities of the loop, irrespective of its transmission media or composition. To this end, the Commission should designate a fiber loop UNE product that would provide a CLEC use of an integrated loop facility. This product offering could be an extension of the latest iteration by SBC of its Broadband Service Offering.<sup>131</sup> In that offering, SBC offers access to a combined network arrangement consisting of: copper facilities from the NGDLC device deployed in remote terminal sites (includes CEVs, huts, and cabinets) to the end user location; a permanent virtual circuit that consists of ATM data transported over a common OC-3c fiber facility from the NGDLC in the remote terminal terminating on the central fiber distribution frame and delivered to a leased affiliated or unaffiliated telecommunications carrier port on the SBC/Ameritech incumbent LEC's OCD in the serving wire center; and a port on the SBC incumbent LEC's OCD with associated cross-connects to extend the port to a point of affiliated or unaffiliated telecommunication carrier virtual or physical collocation.<sup>132</sup>

This product offering should be deemed to be an unbundled network element offered in accord with Sections 251 and 252 of the Act at forward-looking costs.<sup>133</sup> This product offering should be updated and extended in light of the issues raised above in regard to particular components of the NGDLC architecture and new technologies. In addition, the product offering should be allowed to evolve and adapt to reflect different NGDLC architectures and new product developments. The product offering should provide for deployment of equipment that gives a CLEC full access to the existing features and functionality of the facility as well as future features and functionality.

---

<sup>131</sup> CC Docket No. 98-141, Letter from Priscilla Hill-Ardoin, Senior Vice President SBC Telecommunications, Inc. to Magalie R. Salas, Secretary of the FCC, SBC Voluntary Commitments at page 2 (August 2, 2000)(*"SBC Commitments Letter"*).

<sup>132</sup> *Id.*

<sup>133</sup> As this Commission has noted, it is not enough to implement pro-competitive solutions such as line sharing without more; such solutions will not promote competition unless they are "priced in a way that permits competitive LECs to enjoy the same economies of scale and scope as the incumbent LECs." *Line Sharing Order*, p. 63. The

**E. ILECs Must Disclose Fiber Deployment Plans and the Full Technical Capabilities of Next Generation Network Architectures**

As discussed, the Commission has already determined that incumbent LECs must offer as part of UNEs the full functions and capabilities of network elements. Joint Commenters have requested above that the Commission specify that certain capabilities are part of the loop UNE and/or they be designated as UNEs. However, CLECs are disadvantaged in their ability to request advanced capabilities of next generation network architectures because incumbent LECs and their vendors have not fully disclosed the capabilities of the equipment they plan to deploy. The Commission's requirement in the *Project Pronto Order* for SBC to post on its website technical information from its vendor is not likely to be adequate. After carefully reviewing information posted by Alcatel on its website, it provides little information about the capabilities of the equipment other than what is useful for marketing purposes. Moreover, current network disclosure rules are inadequate for revealing the capabilities inherent in advanced network equipment because those rules only require incumbent LECs to disclose network changes that could affect interoperability.<sup>134</sup> While that disclosure is essential, it only reveals those equipment capabilities that the incumbent LEC has chosen to activate.

Instead, the Commission should require that incumbent LECs fully disclose the capabilities of all deployed equipment, including unactivated capabilities. To the extent vendor proprietary information is involved, the Commission may require that incumbent LECs disclose this information subject to appropriate nondisclosure agreements.

**V. ILECS MUST MAINTAIN THE COPPER LOOP PLANT NOTWITHSTANDING DEPLOYMENT OF NEXT GENERATION DIGITAL LOOP CARRIER**

---

same would hold for the Fiber UNE, *i.e.*, unless the pricing for the UNE reflects the economies of scale and scope the incumbent LECs derive from their new-generation architecture, competition will not take root.

<sup>134</sup> See 47 C.F.R. § 68.110(b); 47 C.F.R. Sec. 64.702(d)(2); 47 C.F.R. §§ 51.325 -51.335.

The Commission seeks comment on the impact the deployment of NGDLC will have on copper facilities, *i.e.*, what will happen to these copper facilities when the NGDLC is deployed as an overlay of existing copper facilities. The Commission needs to ensure that these copper facilities are maintained in such a manner that they provide a viable alternate source of CLEC access to customers. The importance of these facilities has been by no means lessened by the NGDLC architecture, and in some cases, their importance has been heightened, particularly to those CLECs whose business plans are focused on the use of copper facilities.

One of the main reasons this Commission unbundled the subloop element was to facilitate CLEC access to customers in an IDLC environment.<sup>135</sup> While, as shown above, technology has provided more ways for CLECs to access IDLC customers as shown above,<sup>136</sup> incumbent LEC deployment of the NGDLC architecture, and the restrictions the incumbent LECs have imposed, ensure that CLECs will still have difficulties accessing their customers under the NGDLC architecture. Maintaining existing copper facilities in the subloop will give CLECs more options in providing such access.

The lack of collocation space for CLEC DSLAMs in many NGDLC remote terminals coupled with interoperability issues with line cards could effectively preclude a CLEC's ability even to access its customers, much less to provide the services it seeks to offer to its customers. The incumbent LECs and their vendors have trumpeted the continued availability of copper facilities as a solution.<sup>137</sup> For copper to remain a viable alternative to the CLECs, spare copper facilities need to be maintained.<sup>138</sup>

---

<sup>135</sup> *UNE Remand Order* at ¶ 213. At that time CLEC access to the IDLC loop at the central office was not technically feasible, so the CLEC needed to access the loop at the remote terminal. *Id.* at ¶ 217.

<sup>136</sup> *See, e.g., Alcatel Reply Comments* at p. 5.

<sup>137</sup> *SBC Reply Comments* at p. 14; *Alcatel Reply Comments* at p. 5.

<sup>138</sup> This by no means is intended to detract from the need to unbundle the NGDLC feeder facility. Instead, it is meant to provide the same variety of options that the incumbent LEC and its affiliate will have. For instance, in those areas where there are spare copper facilities, the incumbent LEC and its affiliate can choose between copper and fiber depending on which facility will best support their particular product offering, and which medium would be most cost-effective. The CLECs should have this same flexibility.

The concerns of the CLECs over their ability to access customers in the NGDLC environment have been well-documented in Docket 98-141 and other dockets. These are not idle concerns. In Richardson, Texas, SBC deployed fiber-to-the-curb technology that effectively precluded CLEC provision of advanced telecommunication services including xDSL services.<sup>139</sup> SBC coupled its fiber-to-the-curb deployment with elimination of most of the copper infrastructure in that network segment. CLECs collocated at the Richardson, Texas central office were left with “little if any access to copper loop UNEs for the provision of xDSL service.”<sup>140</sup> This precipitous removal of copper facilities rendered the expensive collocation arrangements CLECs made in Richardson, Texas, useless, and precluded CLECs from providing advanced services.<sup>141</sup> This example illustrates how allowing incumbent LECs unilateral, unfettered control over facility deployment has already stunted competition.

In addition to addressing the CLEC access issues, the continued use of copper facilities will be beneficial from a network perspective as well. Copper remains the most economical medium for the distribution portion of the loop, particularly given the high cost of fiber-to-the-curb technology.<sup>142</sup> Many of the technological advances described in regard to fiber technology are transferable to a copper environment as well. Incumbent LECs recognize the huge investment they have made in the copper infrastructure and are looking to develop their fiber networks while simultaneously squeezing more out of copper pairs.<sup>143</sup> Thus, for the near future, at least, copper and fiber will co-exist in incumbent LEC networks.

---

<sup>139</sup> CC Docket No. 98-141, Letter from Mpower Communications Corp., to Carol Matthey, Deputy Chief, Common Carrier Bureau at p. 2-4 (August 15, 2000).

<sup>140</sup> *Id.*

<sup>141</sup> *Id.*

<sup>142</sup> *Ryan Article.*

<sup>143</sup> *Ryan Article.* For instance, many incumbent LECs plan to use ADSL technology to deploy multiple lines of voice on a single copper pair. *Id.*

Despite incumbent LEC proclamations concerning the need to protect their control over the network, this explains the surprising consensus on the need to preserve copper facilities. As one observer notes:

[S]imilarly, despite reservations in filings before the Commission in other contexts, SBC notes that maintaining copper loops is *essential* to preserve competitive options, especially in light of flourishing technological advances in delivering copper-based DSL services on home-run copper (“These all-copper loops may become even more useful for provisioning DSL-based services because new forms of DSL with longer reach on all copper loops may evolve.” ¶ 31)<sup>144</sup>

This consensus is reflected in the “voluntary commitment” made by SBC in regard to spare copper facilities. SBC has stated that (1) it has no current plans, or plans under consideration to retire “mainframe terminated” copper facilities with NGDLC deployment;<sup>145</sup> (2) it will follow its established copper retirement policy in a non-discriminatory manner; (3) if it does retire copper facilities pursuant to its NGDLC deployment, it will give six months’ notice of such retirement via Internet posting and offer to sell such facilities to unaffiliated parties; and (4) the application of its copper retirement policy during the next three years will result in the retirement of no more than 5% of its total mainframe copper facilities in service as of September 1, 2000.<sup>146</sup>

---

<sup>144</sup> *NorthPoint Letter* at p. 4 (emphasis in original).

<sup>145</sup> As AT&T notes, “mainframe terminated” copper facilities need to be clearly defined. *AT&T Letter* at p. 4.

<sup>146</sup> *SBC August 2<sup>nd</sup> Letter*, Voluntary Commitment No. 7.

The requirement of the *Project Pronto Order* that SBC may not retire copper for three years is inadequate<sup>147</sup> and needs to be modified in light of the comments raised in Docket 98-141. Moreover, requirement needs to be made mandatory for all incumbent LECs. In particular, incumbent LECs should be required to maintain copper facilities for at least ten years. CLECs need that time horizon to adequately finance and implement their business plans. Notably, in their own TELRIC studies for UNE loop prices, incumbent LECs have assumed an economic life for copper loops of less than 15 years. Traditional ratebase, rate-of-return analyses have generally assumed a useful life to 25-30 years for copper loops. Therefore, there is little prospect that requiring incumbent LECs to maintain copper loops for ten is unrealistic.

In addition, an incumbent LEC should be precluded from focusing its retirement efforts anti-competitively on particular central office(s) such that it could effectively retire the copper loops in an entire area. Otherwise, the incumbent LEC could target its retirement plans to areas in which competition is thriving, thereby thwarting such competition, and promoting the interests of the incumbent LEC's advanced services affiliate.

---

<sup>147</sup> *Project Pronto Order*, [cite].

## **VI. LOCAL EXCHANGE CARRIERS WOULD BENEFIT FROM A NATIONAL SPACE RESERVATION POLICY**

### **A. A National Standard Is Overdue**

The Commission clearly recognizes the value and importance of policies regarding the reservation of space in incumbent LEC premises.<sup>148</sup> The Commission has recognized that incumbent LECs have both “the incentive and capability to impede competition by reducing the amount of space available for collocation of competitors.”<sup>149</sup> Unchecked incumbent LEC space reservation will limit the amount of available collocation space and inhibit the timely deployment of competitive services, particularly advanced services.<sup>150</sup> Without policies limiting the time frame for reserving space, there is no check on how long incumbent LECs may keep vital collocation space out of the reach of competitors. Pacific Bell, prior to the implementation of a space reservation policy by the California Public Utilities Commission, had an “unlimited” reservation policy for dissimilar equipment, *i.e.*, switching equipment, Main Distribution Frames, and power.<sup>151</sup> SBC has previously argued that space reservation periods of 10 to 20 years would be appropriate for such equipment.<sup>152</sup> Thus, without space reservation policies, valuable potential

---

<sup>148</sup> While CLECs also reserve space, the abuse of space reservation and the anti-competitive effects is more an issue in regard to incumbent LECs space reservation since they exert control over the premises. Any policy that this Commission formulates that allows for incumbent LECs to reserve space should provide the same opportunities to the CLECs to reserve space.

<sup>149</sup> *Collocation Remand NPRM* at ¶ 50, quoting *Advanced Services Report and Order*, 14 FCC Rcd at 4793, ¶ 56.

<sup>150</sup> *Collocation Remand NPRM* at ¶ 50.

<sup>151</sup> *Rulemaking on the Commission's Own Motion to Govern Open Access to Bottleneck Services and Establish a Framework for Network Architecture Development of Dominant Networks*, Decision 98-12-069, 1998 WL 995609, 69 (Ca. PUC 1998). Dissimilar equipment is equipment that will be deployed by the incumbent LEC in the incumbent LEC premises that will not be deployed by the CLEC. Similar equipment is equipment that both the incumbent LEC and CLEC will likely deploy in an incumbent LEC premises, *e.g.*, multiplexers.

<sup>152</sup> *Collocation Remand NPRM* at ¶ 49, n. 131.



collocation space could be cordoned off from competitors indefinitely, regardless of the true need to reserve such space.<sup>153</sup>

Recognizing this, the Commission “strongly” urged state commissions to adopt space reservation policies. The issue of space reservation is best suited for a uniform, national standard. It is laudable that state commissions in California, Texas, and Washington have implemented such policies. These policies will help ensure that competitors have space to collocate their equipment such that residents of those states may partake of competitive advanced services. In states where such policies have not been implemented, however, incumbent LECs will be able to hinder competition by reserving space indefinitely. A baseline national standard would avoid disparities in the amount of time incumbent LECs may restrict the availability of collocation space that will result in “inconsistent deployment of advanced services” throughout the U.S.<sup>154</sup>

**B. The Record Supports Adoption Of A National Standard For Space Preservation**

The Commission has previously declined to implement a national standard for space reservation because it felt that states, given their knowledge of local circumstances, were in a better position to determine whether a carrier has reserved more space than is necessary or is utilizing space reservation policies that is impeding physical collocation.<sup>155</sup> The determination of an appropriate time for space reservation does not require a state-specific or central office-specific determination. Rather, such a determination requires a general balance of the need of incumbent LECs to plan their networks against that of CLECs to collocate their equipment.

---

<sup>153</sup> The space that is reserved is fully vacant space, and does not cover space that the incumbent LEC may be deeming to be occupied but in actuality is being used to “warehouse” inactive or underutilized equipment. The Washington Utilities and Transportation Commission deemed this “warehousing” practice to be a “de facto reservation of space for future use.” *Re MFS Communications Company, Inc.*, Docket Nos. UT-960323, UT-960326, UT-960337, 1998 WL 996190, 10 (WUTC 1998). Thus, usable space is already being foreclosed even before space is “reserved” by the incumbent LEC.

<sup>154</sup> CC Docket No. 98-147, Reply to Oppositions to Sprint’s Petition for Partial Reconsideration and/or Clarification at p. 9 (July 27, 1999)(“*Sprint Reply*”).

<sup>155</sup> *Collocation Remand NPRM*, at ¶ 52.

The Commission can determine a time frame that would reasonably allow for incumbent LEC network planning and buildout that can apply in Michigan just as well as it would in Georgia. It is quite illuminative that three of the states that have implemented space reservation policies, California, Texas, and Washington, are three of the largest states in the United States, and ones presumably with a large diversity of central office arrangements and space disputes. Yet, these states have implemented space reservation policies that apply in Carmel as well as Los Angeles; in San Angelo as well as Dallas. This is not intended to minimize the state PUCs' role in issues of space reservation. State PUCs would be the best entities to apply and police the space reservation policies; but the Commission should first establish and implement a national standard.

**C. The Commission Should Adopt Proactive Space Enhancement Policies.**

The Commission needs to shift its focus from space reservation to space enhancement. Much of the underlying basis for space reservation plans has been undercut by technological advancements. The record in this proceeding will undeniably demonstrate that telecommunications equipment is becoming smaller and more integrated. For instance, switching, transport, and power equipment are all being integrated in multi-functional equipment that occupies a fraction of the space needed before. Yet, incumbent LECs argue that they need ten years to plan for the orderly growth and expansion of equipment such as main distribution frames and switches and two years for equipment such as multiplexers and fiber optic terminals.<sup>156</sup> Equipment is not expanding, it is contracting, and equipment that used to take up significant amounts of space, such as switches, and main distribution frames are becoming smaller or marginalized.<sup>157</sup> Project Pronto is a demonstration of how evolving technological equipment is becoming smaller and can be rapidly deployed.<sup>158</sup> As this Commission has

---

<sup>156</sup> *Sprint Reply* at p. 7.

<sup>157</sup> For instance, SBC's Project Pronto architecture utilizes integrated DLC technology that bypasses the main distribution frame altogether. *IL Line Sharing Order* at p. 11.

recognized, remote terminals are becoming the central offices of today, with many of the essential telecommunications functions being moved out to such structures. The quick way in which SBC plans to deploy these remote terminals demonstrates that network planning and expansion requires less time than it did a few years ago.

Thus, there is simply no basis for the excessive time periods incumbent LECs seek to reserve space. The fact that incumbent LECs are continuing to insist on such excessive space reservation time frames demonstrates that incumbent LECs are not basing these policies on the realities of the market, but on their desire to leverage their control of available collocation space. The Commission has taken a welcome first step in recognizing the way in which incumbent LEC space reservation plans can impede competition and the need for policies to check such plans. The Commission needs to take the next step and implement a national, uniform policy that will limit these space reservation plans. Joint Commenters propose that a period of a year would be sufficient to give carriers an opportunity to engage in network planning. In the evolving telecommunications market, any period longer than a year is not needed and will exclude valuable space that can be used in incumbent LEC premises.<sup>159</sup>

In addition, the Commission's focus needs to shift from allowing incumbent LECs to reserve space to encouraging incumbent LECs to utilize configurations and equipment that will enhance available space and allow for more carriers to be able to collocate. Rather than allowing incumbent LECs to have the ability to reserve space for indefinite periods, policies should be implemented that will place on incumbent LECs an affirmative obligation to ensure space is available both in the central office and remote terminals. Technology is providing ways to address the space limitation issues that have inhibited the development of competition to date.

---

<sup>158</sup> As part of its Project Pronto, SBC will "install or upgrade approximately 25,000 neighborhood broadband gateways containing next-generation digital loop carriers." SBC Communications, Inc., *Project Pronto: SBC's Network Vision and Strategy* (November 1999).

<sup>159</sup> The time frame should not be equipment-specific, *i.e.*, the similar/dissimilar distinction should be eliminated. Technology is integrating equipment and blurring old definitional lines. There is no need for a longer time frame for equipment such as switches.

These developments should not be undercut by incumbent LEC practices that will limit space in the future.

A classic example of this is how SBC has committed to making more collocation space available in remote terminals it deploys after September 15, 2000.<sup>160</sup> This shows that incumbent LECs do have capabilities to plan their networks not only to meet their needs, but also to provide for space to effectuate non-discriminatory access to their premises. It also suggests that up to this point, SBC was not providing for such space in its remote terminals given the lack of collocation space at the existing terminals. The Commission needs to implement policies that transforms the focus of network planning from unnecessarily reserving existing space in premises to encouraging the provision of more space in these premises. The focus has to switch from space reservation to space enhancement.

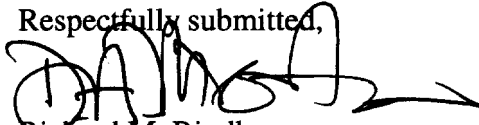
---

<sup>160</sup> *In the Matter of Ameritech Corp., Transferor, and SBC Communications, Inc., Transferee, for Consent to Transfer Control of Corporations Holding Commission Licenses and Lines Pursuant to Sections 214 and 310(d) of the Communications Act and Parts 5, 22, 24, 25, 63, 90, 95, and 101 of the Commission's Rules*, CC Docket No. 98-141, ASD File No. 99-49, Second Memorandum Opinion and Order, ¶ 34 (Sept. 8, 2000) ("Project Pronto Order").

## VII. CONCLUSION

For the foregoing reasons, the Commission should adopt the policies and requirements urged by Joint Commenters.

Respectfully submitted,

A handwritten signature in black ink, appearing to read 'Rindler', with a long horizontal flourish extending to the right.

Richard M. Rindler

D. Anthony Mastando

Swidler Berlin Shereff Friedman, LLP

K Street, N.W. - Suite 300

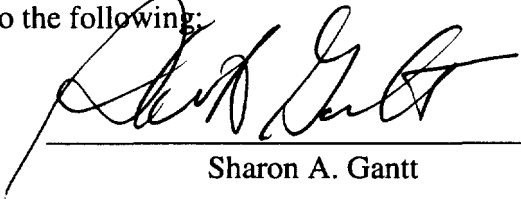
Washington, D.C. 20007

(202) 424-7500

Dated: October 12, 2000

**CERTIFICATE OF SERVICE**

I, Sharon Gantt, do hereby certify that on this 11<sup>th</sup> day of October, 2000 the foregoing Joint Comments of Telergy, Inc., Adelphia Business Solutions, Inc., and Business Telecommunications, Inc. were delivered by hand to the following:



---

Sharon A. Gantt

Magalie Roman Salas  
Secretary  
Federal Communications Commission  
The Portals - TW-A325  
445 12<sup>th</sup> Street, S.W.  
Washington, DC 20554

Janice Myles  
Common Carrier Bureau  
Policy & Program Planning Division  
445 12<sup>th</sup> Street, SW  
Washington, DC 20554

International Transcription Service, Inc.  
1231 20<sup>th</sup> Street, NW  
Washington, DC 20036